

Application No.: 10/701201

Case No.: 58983US002

REMARKS

Claims 43-97 are pending in the present application. Claims 43-49, 59-68, 75, 81-86 and 92 are rejected. Claims 50-58, 69-74, 76-80 87-91 are objected to. Claim 81 has been amended. Claim 93 has been canceled. New claims 98 and 99 have been added. No new matter has been added.

Applicant thanks the Examiner for indicating that claims 50-58, 69-74, 76-80 87-91 and 93-97 contain allowable subject matter.

Rejections under 35 U.S.C. § 102**Claims 43, 47, 48, 56, 81, 85 and 86**

Claims 43, 47, 48, 56, 81, 85 and 86 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yagi et al. (US 2004/0202007A1) (Yagi). Yagi teaches a headlamp for vehicle. In FIG. 4, Yagi's device has a light emitting diode (LED) 52 mounted to a board. The light from the LED is collected by a reflector 54, which is described, in paragraph [0056], as being an almost dome shaped member provided on the upper side of the LED and having a reflecting plane 54a for forward collecting and reflecting light emitted from the LED. It is also stated that the reflecting plane 54a is formed to take the shape of an almost ellipse and sphere setting the optical axis Ax to be a central axis and a distance in a vertical direction from the LED to the reflecting plane 54a is set to be approximately 10 mm.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628,631, 2 USPQ2d 1051 1053 (Fed. Cir.) 1987). "The identical invention must be shown in as complete detail as is contained in the...claim." Richardson v. Suzuki Motor Co., 868 F. 2d1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Therefore, if a reference does not teach every element of the claim, then the reference does not anticipate the claim (see MPEP § 2131). Applicant respectfully asserts that Yagi fails to teach all the elements of claim 43.

The invention of claim 43 is directed to an illumination unit that has a first curved reflector having a first reflecting surface that defines a first reflector axis. A first LED is

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positioned to emit light generally along an LED axis non-parallel to the first reflector axis. Light from the first LED is reflectingly converged by the first reflecting surface towards a first target focus. A first plane formed by the first reflector axis and the LED axis intersects the reflecting surface at an intersection region. The intersection region of the first reflecting surface extends closer towards the first focus than regions of the first reflecting surface outside the intersecting region.

One exemplary embodiment of this claim is schematically illustrated in FIG. 4B of the present invention: that portion of the reflector that intersects the plane formed by the LED axis and the reflector axis is tapered towards a point that extends more closely to the target focal area 430 than the regions of the reflector that do not intersect with this plane. This compares with, for example, the reflector shown in FIG. 4A, in which the portions of the reflector 404a that do not intersect the plane extend as far towards the target focal region 410 as the portion of the reflector 404b that does intersect that plane.

Yagi completely fails to teach that the portion of the reflector intersecting with the plane extends closer to the focus than the portions of the reflector that do not intersect with the plane. Accordingly, Yagi fails to teach all the elements of claim 43, and claim 43 is allowable thereover.

Claims 47, 48, 56, which depend from claim 43, and further define the invention of claim 43, were also rejected under 35 U.S.C. §102(e) as being anticipated by Yagi. While Applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 43. Therefore, dependent claims 47, 48 and 56 are also in condition for allowance.

Claim 81 has been amended to include the features of canceled claim 93, which the Examiner indicated was allowable. Claim 81 is, therefore, allowable. Claims 85 and 86, which both depend from claim 81, are also allowable.

Claims 59-68

Claims 59-68 are rejected under 35 U.S.C. § 102(e) as being anticipated by Fleury (US 2002/0191395A1). Fleury teaches an illuminating device having at least two light sources. A real image of each light sources is formed by respective first optical systems at a common point

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to form a secondary source. A second optical system, having an optical axis passing through the secondary source, formed an illuminating beam. (Abstract) In particular, with respect to the embodiment illustrated in FIG. 2, the light sources 10A, 10B are arranged on a crown 12, which is shown as a flat ring. The optical systems forming the real images of the light sources are portions of ellipsoids arranged in a corolla about the axis in such a way that their first foci coincide with the light sources 10A, 10B and that their second foci are coincident with each other on the axis Oy and with the object focus of lens L (paragraph [0044]).

The invention of claim 59, on the other hand, is directed to an illumination unit that has a reflector body having a body axis. The reflector body includes a first reflecting surface having a first axis and a first focus, the first reflecting surface having a shape such that light from the first focus is convergently reflected by first reflecting surface. The reflector body also has a second reflecting surface disposed adjacent to the first reflecting surface, the second reflecting surface having a second axis a second focus, the second reflecting surface being shaped such that light from the second focus is convergently reflected by the second reflecting surface. The first and second reflecting surfaces are positioned transversally about the body axis and the second axis is non-parallel with the first axis so that light from the first focus that is convergently reflected by the first reflecting surface overlaps with light from the second focus that is convergently reflected by the second reflecting surface.

In the ellipsoidal reflectors taught by Fleury, the light sources 10A, 10B are located at one focus and the light converges as the other focus of each ellipsoid. In such a case, the axis of the reflector passes through the two foci of the reflector. From the figure, the axis of each reflector 24 is perpendicular to the axis Oy. Thus, the axes of the two reflectors shown in FIG. 2 are parallel to each other.

This contrasts with the claimed invention, in which it is required that the first and second axes of the first and second reflecting axes are non-parallel to each other. One of the embodiments in which the first and second axes 512a, 512b are non-parallel is schematically illustrated in FIG. 5.

Accordingly, since Fleury fails to teach all the elements of claim 59, the invention of claim 59 is not anticipated, and is allowable.

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Claims 60-68, which depend from claim 59, and further define the invention of claim 59, were also rejected under 35 U.S.C. §102(e) as being anticipated by Fleury. While Applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 59. Therefore, dependent claims 60-68 are also in condition for allowance.

Rejections under 35 U.S.C. § 103

Claims 44-46 49 and 82-84 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yagi. These claims depend, either directly or indirectly, from claims 43 and 81, which are allowable. No additional art has been provided by the Examiner regarding these claims, and so these claims are also allowable.

Conclusion

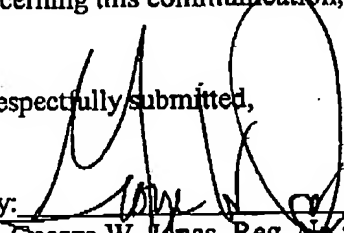
Examination and consideration of the application as amended is requested and allowance of claims 43-92 and 94-99, at an early date is earnestly solicited. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact the undersigned attorney.

Date

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